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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,117	12/26/2001	Shi-Huang Yin	1662-47100 JMH (P01-3762)	3406
23505	7590	06/13/2005	EXAMINER	
CONLEY ROSE, P.C. P. O. BOX 3267 HOUSTON, TX 77253-3267			TRAN, KHANH C	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/036,117	<b>Applicant(s)</b> YIN ET AL.	
	<b>Examiner</b> Khanh Tran	<b>Art Unit</b> 2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 December 2001.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-24 and 33-44 is/are allowed.
- 6) ☒ Claim(s) 25,26,29 and 30 is/are rejected.
- 7) ☒ Claim(s) 27,28,31 and 32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 25-26 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe U.S. Patent 6,259,753 B1.

Regarding claims 25 and 29, Watanabe invention is directed to a data sync signal detecting device for detecting a sync signal using a bit string of the data output from a data discriminator. Figure 2 illustrates a data sync signal detecting device.

In column 9 line 60 via column 10 line 20, output data of a most likelihood decoder constituting a data discriminator is applied to a shift register cell and sequentially shifted and held in a bit cells of shift register. The outputs of these bits cell are separated into odd-numbered bit strings and an even-numbered bit strings and applied to pattern matching circuits 541 542 543 544 as shown in figure 5. In view of that, input string is subdivided into substrings.

The odd-numbered bit strings are matched with predetermined sync signal patterns and the even-numbered bit strings are matched with a predetermined sync signal patterns. Odd-numbered bit strings and even-numbered bit strings

are detected by pattern matching circuits 541 542 543 544. Hence, the location of the position of the leading bits is generated by the pattern matching process and has binary representation as shown in figure 5.

Watanabe does not teach the step of identifying the most significant substring that includes the most significant bits as set forth in the claim.

Nevertheless, because the configuration of those odd-numbered bit strings and an even-numbered bit strings as shown in figure 5, one of ordinary skill in the art at the time of the invention would have recognized that the most significant substring is the substring in the pattern matching circuit 541, the substring having a binary representation as shown in the example of detected code example as shown in figure 5.

The coincidence number adder/majority decision circuit 551 combines the matching results to form a sync pattern representative of binary representation of the position of leading binary bit value of the input string.

Regarding claims 26 and 30, odd-numbered bit strings and an even-numbered bit strings are equal length substrings.

### ***Allowable Subject Matter***

2. Claims 1-7 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 1, claim 1 is allowed over prior art of record because the cited references do not teach or suggest a digital circuit configured to locate and output binary encoded position of a leading bit of a desired value in an input string of bits as set forth in the application claim.

3. Claims 8-14 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 8, claim 8 is allowed over prior art of record because the cited references do not teach or suggest a trailing bit detector configured to locate and output binary encoded position of a trailing bit of a desired value in an input string of bits as set forth in the application claim.

4. Claims 15-19 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 15, claim 15 is allowed over prior art of record because the cited references do not teach or suggest a method of locating and indicating the position of a leading bit value in a string of bits as set forth in the application claim.

5. Claims 20-24 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 20, claim 20 is allowed over prior art of record because the

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cited references do not teach or suggest a method of locating and indicating the position of a trailing binary bit value in a string of bits as set forth in the application claim.

6. Claims 27-28 and 31-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 33-38 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 33, claim 33 is allowed over prior art of record because the cited references do not teach or suggest a digital circuit for generating a binary encoded position of a leading bit value in an input string of bits as set forth in the application claim.

8. Claims 39-44 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 39, claim 39 is allowed over prior art of record because the cited references do not teach or suggest a digital circuit for generating a binary encoded position of a leading bit value in an input string of bits as set forth in the application claim.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Watanabe U.S. Patent Publication No. 2001/0022825 A1 discloses "Data Synchronizing Signal Detecting Device".

Isozaki U.S. Patent 5,450,451 discloses "Apparatus For Generating A Synchronizing Signal".

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KCT

*Khánh công Tran*

06/10/2005

Examiner KHANH TRAN